# Microsoft Excel Expert (Microsoft 365 Apps)

# Student Study Guide: Project 2

**Instructions:** In this project there are 32 tasks based on the exam objectives for Exam MO-211: Microsoft Excel Expert (Microsoft 365 Apps). For each exam objective, complete the task(s) using the supporting files listed below under **Resources**. After each task is completed, check the task box to mark it as complete.

***Note*:** *Refer to the Learning Directory for step-by-step guidance and additional resources, if needed.*

**Resources:**

* **Project2\_datafile.xlsx** in the **Project\_Files** folder.
* **Products\_List.xlsx** in the **Project\_Files** folder.
* **Employee\_Information.xlsx** in the **Project\_Files** folder.
* **FarmersMarket\_Report.xlsx** in the **Project\_Files** folder.

## Project 2 Tasks

2.1.1 Fill cells by using Flash Fill

In the Project2\_datafile.xlsx workbook, on the Employees worksheet, use Flash Fill in columns B through E to fill in the Employee's ID (the first four digits), their Full name including their First name, middle initial followed by a period (if there is a middle name), and Last name. Capitalize the first letter of the first and last names and the middle initial, but the rest of the characters should be lower-case, for example: Liane B. Cormier.

2.2.5 Remove duplicate records

On the Employees worksheet, use the Excel tool to automatically remove the duplicate records from A2:C23.

1.1.2 Reference data in other workbooks

Use Power Query Editor to create a new Query that links to the 15 employee records in the Employee\_Information.xlsx workbook. Don’t import the first row, blank columns, or blank rows. Use the headers: Employee ID, First name, Last name, Address, City, State\_Region, Postal\_ZIP, Phone.

3.2.1 Look up data by using the XLOOKUP(), VLOOKUP(), HLOOKUP(), MATCH(), and INDEX() functions

On the EmployeeRates\_Benefits worksheet, use one function to return into the First name and Last name columns both the first and the last name of each employee from the EmployeeAddressPhone worksheet. If the Employee ID doesn’t match, return the text “not found.”

3.1.1 Perform logical operations by using nested functions including the IF(), IFS(), SWITCH(), SUMIF(), AVERAGEIF(), COUNTIF(), SUMIFS(), AVERAGEIFS(), COUNTIFS(), MAXIFS(), MINIFS(), AND(), OR(),NOT(), and LET() functions

On the EmployeeRates\_Benefits worksheet, in cell B23, enter a function to determine the number of Delivery personnel whose hourly rate is $19/hour or more. Use the values entered in B21:B22 in the function.

3.1.1 Perform logical operations by using nested functions including the IF(), IFS(), SWITCH(), SUMIF(), AVERAGEIF(), COUNTIF(), SUMIFS(), AVERAGEIFS(), COUNTIFS(), MAXIFS(), MINIFS(), AND(), OR(),NOT(), and LET() functions

On the EmployeeRates\_Benefits worksheet, in cell B27, determine the maximum hourly rate for employees in Administration who have Benefit Package C. Use the values entered in B25:B26 in the function.

3.1.1 Perform logical operations by using nested functions including the IF(), IFS(), SWITCH(), SUMIF(), AVERAGEIF(), COUNTIF(), SUMIFS(), AVERAGEIFS(), COUNTIFS(), MAXIFS(), MINIFS(), AND(), OR(),NOT(), and LET() functions

Delivery personnel need vehicle insurance but it’s only included in Benefit Package C. On the EmployeeRates\_Benefits worksheet, enter a nested function in cells H4:H18 that uses IF(), AND() and NOT() to return “Yes” if the employee has a Job Role of Delivery and also does not have Benefit Package C. For all other conditions, return “No.”

3.1.1 Perform logical operations by using nested functions including the IF(), IFS(), SWITCH(), SUMIF(), AVERAGEIF(), COUNTIF(), SUMIFS(), AVERAGEIFS(), COUNTIFS(), MAXIFS(), MINIFS(), AND(), OR(),NOT(), and LET() functions

On the EmployeeRates\_Benefits worksheet, in column I, use the IF() and OR() functions together to return "Yes" if the Benefit Package is A or B. If these criteria aren’t met, return nothing.

2.1.2 Fill cells by using advanced Fill Series options

On the Sales and Bonuses worksheet, create a list of Sales amounts in column K by creating a Linear Series using a step value of 75, starting with 300 in K2 and ending with 1650.

2.1.2 Fill cells by using advanced Fill Series options

On the Sales and Bonuses worksheet, create a list of Bonus % amounts in column L by creating a Linear Series using a step value of .25%, starting with 1.5% in L2 and ending with 6%.

3.2.1 Look up data by using the XLOOKUP(), VLOOKUP(), HLOOKUP(), MATCH(), and INDEX() functions

On the Sales and Bonuses worksheet, enter a function in the Bonus % column in C3:C24. Use each employee’s sales amount in column D to find the appropriate bonus percentage in column L and list it in C3:C24.

3.5.1 Trace precedence and dependence

3.5.3 Validate formulas by using error checking rules

On the Sales and Bonuses worksheet, use Trace Precedents to diagnose the location of the error in H3. Use Trace Dependents to visualize which cells rely on the value in D7. Use Error Checking in E7 to determine the type of error, and then edit and correct the formula.

2.3.3 Manage conditional formatting rules

On the Sales and Bonuses worksheet, for the values in the Sales column, change the order of the existing conditional formatting rules so all current formats and rules apply and the text for cells with values greater than 700 remain black.

2.3.1 Create custom conditional formatting rules

2.3.2 Create conditional formatting rules that use formulas

On the Sales and Bonuses worksheet, create a new custom Conditional Formatting rule that applies a Bold font style to the Employee’s name if their Sales amount in column D is more than the Average sales per employee amount in H2.

4.2.2 Modify field selections and options

On the Sales Quantity worksheet, in the SalesQuantity PivotTable, add the Product category field to the Rows bin above the Product name field and collapse the Product category field. Filter the PivotTable to show only the Honey and Jams and Jellies Product categories.

4.3.1 Create PivotCharts

4.3.2 Manipulate options in existing PivotCharts

4.3.4 Drill down into PivotChart details

On the Sales Quantity worksheet, create a Pie PivotChart based on the SalesQuantity PivotTable. Remove the Title and the Legend. Add Labels on the Outside End that include the Category Name and Value. Expand the Honey Product category and then Show Detail for Wildflower honey on a new worksheet named “Wildflower honey detail.”

4.2.4 Group PivotTable data

On the Qty by City worksheet, group the rows in the PivotTable by the Quantity field from 1 to 10 in groupings of 5.

4.2.4 Group PivotTable data

4.2.2 Modify field selections and options

On the Summer Sales worksheet, in the SummerSales PivotTable, group the Sale Date by Months and then set the row labels so they will repeat on each printed page.

4.2.2 Modify field selections and options

4.2.6 Configure value field settings

On the Summer Sales worksheet, in the SummerSales PivotTable, add the Order total field a second time to the PivotTable Values bin and place it after the Sales field. Configure it so it shows values as the percentage of Row Total, has the Percentage format with 1 decimal place, and has the Custom Name “% of order”

4.2.3 Create slicers

In the SummerSalesPivot PivotTable, create slicers for the City and Sale Date fields. For the Sale Date Slicer, adjust the Slicer Settings to hide items with no data. Use the City Slicer to omit data for the cities Bow and Conway.

4.1.2 Create and modify charts including Box & Whisker, Combo, Funnel, Histogram, Sunburst, and Waterfall charts

On the Product in stock worksheet, add a Funnel chart using data in the ProductInStock range. Organize the chart in chronological order from the top down, starting with Week 1 at the top of the chart.

4.1.2 Create and modify charts including Box & Whisker, Combo, Funnel, Histogram, Sunburst, and Waterfall charts

On the Sales by Month worksheet, create a Sunburst chart grouping the data chronologically by month. Only include data from June, July, and August. Add the title: “Summer Farmers Market Sales” apply Chart Style 6, and then remove the legend.

* 2.2.1 Create custom number formats

On the Sales by Day worksheet, create and then apply custom formatting to the date values in A2:A29 so the dates display only the full name of the day of the week, for example, Monday.

* 2.2.1 Create custom number formats

On the Sales by Day worksheet, create and then apply custom formatting to the Sales values in B2:B29 that includes a “$” dollar sign, a space between the dollar sign and the first number, a comma thousands separator, and no decimal places. Zero should display as $ 0, and $1,234.56 should display as $ 1,235.

4.1.2 Create and modify charts including Box & Whisker, Combo, Funnel, Histogram, Sunburst, and Waterfall charts

On the Sales by Day worksheet, use all the data available to create a Box & Whisker chart that displays the mean line, mean markers, inner points, and outlier points, and should use the Exclusive median Quartile Calculation.

2.2.3 Group and ungroup data

2.2.4 Calculate data by inserting subtotals and totals

On the Baker Heights Sales worksheet, clear the current outline and then use Subtotals to display Sum totals for the Quantity and Order total, grouping by Product name. Collapse the outline so the only rows of data visible are the Subtotal rows and the Grand Total row. Manually group the columns and then collapse the outline so that the only columns visible are the Product name, Quantity, and Order total columns. Save and close the Project2\_datafile.xlsx workbook.

2.1.2 Fill cells by using advanced Fill Series options

In the Products\_List.xlsx workbook, on the Prices\_Discounts worksheet, create a range of Discount percentages in G3:U3 using a Linear Trend starting at 1% in G3 with a step value of 1.5%.

3.2.1 Look up data by using the XLOOKUP(), VLOOKUP(), HLOOKUP(), MATCH(), and INDEX() functions

In the Products\_List.xlsx workbook, on the Prices\_Discounts worksheet, enter a function in D4:D21 that returns the Discount amount for each product. Use the Price values in column C and the Discount % values in the “DiscountPercentages” range. Save the workbook and leave it open.

1.1.2 Reference data in other workbooks

In the FarmersMarket\_Report.xlsx workbook, on the Sales worksheet, enter a function in D4:D21 that uses the Product ID values in column B to link to the Product Prices in the Products\_List.xlsx workbook.

3.3.1 Reference date and time by using the NOW() and TODAY() functions

2.2.1 Create custom number formats

In the FarmersMarket\_Report.xlsx workbook, on the Sales worksheet, enter a function in F1 that returns the current system date and time. Apply custom formatting to show the day as 1 or 2 digits, 3-character month, 4-digit year, and time in AM/PM format. For example, January 4, 2023 at 4:35 in the afternoon would display as: 4 Jan 2023 4:35 PM.

1.2.1 Restrict editing

1.2.2 Protect worksheets and cell ranges

In the FarmersMarket\_Report.xlsx workbook, restrict data entry and editing on the Sales sheet to only the range E4:E21, with the title “QuantitySold” and only when the user enters the password “password”. Protect the sheet using the password “password”.

1.2.1 Restrict editing

Encrypt the FarmersMarket\_Report.xlsx workbook with the password “password” and then save and close it.